

CENSUS BULLETIN.

No. 170.

WASHINGTON, D. C.

May 19, 1902.

AGRICULTURE.

MINNESOTA.

Hon. WILLIAM R. MERRIAM,

Director of the Census.

SIR: I have the honor to transmit herewith, for publication in bulletin form, the statistics of agriculture in the state of Minnesota, taken in accordance with the provisions of section 7 of the act of March 3, 1899. This section requires that—

The schedules relating to agriculture shall comprehend the following topics: Name of occupant of each farm, color of occupant, tenure, acreage, value of farm and improvements, acreage of different products, quantity and value of products, and number and value of live stock. All questions as to quantity and value of crops shall relate to the year ending December thirty-first next preceding the enumeration.

A "farm," as defined by the Twelfth Census, includes all the land, under one management, used for raising crops and pasturing live stock, with the wood lots, swamps, meadows, etc., connected therewith. It includes also the house in which the farmer resides, and all other buildings used by him in connection with his farming operations.

The farms of Minnesota, June 1, 1900, numbered 154,659, and had a value of \$669,522,315. Of this amount \$110,220,415, or 16.5 per cent, represents the value of buildings, and \$559,301,900, or 83.5 per cent, the value of land and improvements other than buildings. On the same date the value of farm implements and machinery was \$30,099,230, and that of live stock, \$89,063,097. These values, added to that of farms, give \$788,684,642, the "total value of farm property."

The products derived from domestic animals, poultry, and bees, including animals sold and animals slaughtered on farms, are referred to in this bulletin as "animal products." The total value of such products, together with the value of all

crops, is termed "total value of farm products." This value for 1899 was \$161,217,304, of which amount \$45,522,367, or 28.2 per cent, represents the value of animal products, and \$115,694,937, or 71.8 per cent, the value of crops, including forest products cut or produced on farms. The total value of farm products for 1899 exceeds that reported for 1889 by \$89,979,074, or 126.3 per cent. A part of this increase, however, is doubtless due to a more detailed enumeration of the products of 1899 than of those of 1889.

The "gross farm income" is obtained by deducting from the total value of farm products the value of the products fed to live stock on the farms of the producers. In 1899 the reported value of products fed was \$33,257,480, leaving \$127,959,824 as the gross farm income. The ratio which this latter amount bears to the "total value of farm property" is referred to in this bulletin as the "percentage of gross income upon investment." For Minnesota in 1899 it was 16.2 per cent.

As no reports of expenditures for taxes, interest, insurance, feed for stock, and similar items have been obtained by any census, no statement of net farm income can be given.

The statistics presented in this bulletin will be treated in greater detail in the final report on agriculture in the United States, which will be published about June 1, 1902. This publication is designed to present merely a summarized advance statement for Minnesota.

Very respectfully,

L. G. Powers.

Chief Statistician for Agriculture.

AGRICULTURE IN MINNESOTA.

GENERAL STATISTICS.

Minnesota has a total land area of 79,205 square miles, or 50,691,200 acres, of which 26,248,498 acres, or 51.8 per cent, are included in farms.

The surface of the state is undulating, and although there are no mountains or foothills, it is the natural watershed of all that part of the North American continent lying east of the Rocky Mountains. It contains the remote sources of three great water systems, the Mississippi River, the Red River of the North, and the St. Louis River, the last named eventually finding its way to the Atlantic Ocean through the Great Lakes and the St. Lawrence River.

Partly as a result of this fact, four distinct divisions may be recognized, differing in soil and vegetable growth. The soil of the northwestern section is a rich alluvial deposit, admirably adapted to wheat growing. The northeastern slope contains important mineral deposits and forest tracts, and yields only fair crops. The north central division comprises an extensive area, heavily timbered with pine, its soil being generally sandy. In the southern division, comprising almost the entire southern half of the state, woodlands and rolling prairies alternate. This land is unsurpassed in fertility and productiveness.

NUMBER AND SIZE OF FARMS.

Table 1 gives by decades since 1850 the number of farms, the total and average acreage, and the per cent of farm land improved.

TABLE 1.—FARMS AND FARM ACREAGE: 1850 TO 1900.

YEAR.	Number of farms.	NUMBER OF ACRES IN FARMS.				Per cent of farm land improved.
		Total.	Improved.	Unimproved.	Average.	
1900.....	154,659	26,248,498	18,442,585	7,805,913	169.7	70.3
1890.....	116,581	18,663,645	11,127,953	7,535,692	160.1	59.6
1880.....	92,886	13,403,019	7,246,693	6,156,326	145.1	54.1
1870.....	46,600	6,488,828	2,822,102	4,161,726	139.4	35.8
1860.....	18,181	2,711,968	656,250	2,155,718	149.2	20.5
1850.....	157	28,881	5,035	23,846	184.0	17.4

The number and aggregate area of farms have increased rapidly since 1850, and between 1890 and 1900 the rates of gain were 32.7 per cent and 40.6 per cent, respectively. The peculiar adaptability of the soil and climate of northwestern Minnesota to the growing of cereals and hay, became generally known just prior to 1880; the rapid

development of the industry which followed, resulted in the conversion of vast uncultivated areas into highly productive farms, and it is chiefly for this reason that, since that date, the total farm acreage has increased more rapidly than the number of farms. The division of farm holdings in the southern portion of the state, where the land is more intensively cultivated, has not been sufficient to overcome the expansive movement in the northwestern section; hence a steady increase in the average size of farms is noted for the past four decades. This gain has been attended by a correspondingly marked increase in the per cent of farm land improved.

FARM PROPERTY AND PRODUCTS.

Table 2 presents a summary of the principal statistics relating to farm property and products for each census year, beginning with 1850.

TABLE 2.—VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND OF FARM PRODUCTS: 1850 TO 1900.

YEAR.	Total value of farm property.	Land, improvements, and buildings.	Implements and machinery.	Live stock.	Farm products. ¹
1900.....	\$788,684,642	\$669,522,315	\$80,099,230	\$89,063,097	\$161,217,304
1890.....	414,701,626	340,659,470	16,916,478	57,725,683	71,238,234
1880.....	238,718,864	193,724,260	13,089,783	31,904,821	49,468,951
1870 ²	124,687,403	97,847,442	6,721,120	20,118,841	\$83,446,400
1860.....	32,166,946	27,505,922	1,018,183	8,642,841	-----
1850.....	270,788	161,948	15,981	92,859	-----

¹ For year preceding that designated.

² Values for 1870 were reported in depreciated currency. To reduce to specie basis of the other figures, they must be diminished by one-fifth.

³ Includes betterments and additions to live stock.

Between 1850 and 1900 the total value of farm property increased \$788,413,854, and in the last decade, \$373,983,016, or 90.2 per cent. Of the latter amount, \$329,462,845, or 88.1 per cent, represents the increase in the value of farms; \$13,182,757, or 3.5 per cent, in that of implements and machinery; and \$31,337,414, or 8.4 per cent, in that of live stock. The value of farm products for 1899 exceeds that for 1889 by 126.3 per cent, but a part of this gain, and of that in implements and machinery, is doubtless due to a more detailed enumeration in 1900 than heretofore.

COUNTY STATISTICS.

Table 3 gives an exhibit of general agricultural statistics by counties.

TABLE 3.—NUMBER AND ACREAGE OF FARMS, AND VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, JUNE 1, 1900, WITH VALUE OF PRODUCTS OF 1899 NOT FED TO LIVE STOCK, AND EXPENDITURES IN 1899 FOR LABOR AND FERTILIZERS, BY COUNTIES.

COUNTIES.	NUMBER OF FARMS.		ACRES IN FARMS.		VALUES OF FARM PROPERTY.				Value of products not fed to live stock.	EXPENDITURES.	
	Total.	With build- ings.	Total.	Improved.	Land and improve- ments (ex- cept build- ings).	Buildings.	Imple- ments and machinery.	Live stock.		Labor.	Fertili- zers.
The State	154,659	149,073	26,248,498	18,442,585	\$559,801,900	\$110,220,415	\$30,099,230	\$89,063,097	\$127,959,824	\$16,657,820	\$251,120
Atkin	768	751	112,712	20,707	667,030	195,600	48,620	215,147	207,477	12,520	190
Anoka	1,356	1,295	174,688	87,072	2,692,680	766,760	152,870	537,146	729,466	75,280	8,180
Becker	1,947	1,850	304,968	144,459	3,373,800	818,860	233,280	790,809	1,062,238	109,010	1,740
Beltrami	1,243	1,206	186,716	23,622	946,670	166,840	63,850	220,774	224,088	14,030	80
Benton	1,275	1,257	180,017	90,696	2,636,300	572,760	180,560	501,117	568,640	48,530	2,500
Bigstone	1,044	996	276,968	243,724	4,489,290	766,270	270,810	625,702	1,423,116	206,700	700
Blue Earth	3,186	3,087	450,612	304,138	16,128,840	3,058,280	671,770	2,124,128	2,805,152	270,660	8,880
Brown	1,857	1,799	372,680	318,492	9,818,860	1,740,920	434,280	1,335,501	1,962,215	287,180	3,310
Carlton	605	596	67,092	13,554	542,630	205,970	34,720	156,344	154,038	53,300	1,210
Carver	1,975	1,953	216,868	121,224	6,242,980	1,602,840	365,580	1,130,843	1,546,166	130,590	890
Cass	668	642	104,577	20,585	533,690	113,650	40,300	168,095	164,465	3,740	120
Chippewa	1,687	1,576	342,301	308,700	6,515,760	1,141,060	335,430	994,325	1,625,902	311,400	1,150
Chisago	1,969	1,934	214,778	85,277	3,419,310	1,374,640	297,210	815,166	1,081,154	102,420	3,390
Clay	1,994	1,852	546,686	438,802	8,767,950	1,224,020	574,430	1,371,832	2,544,600	486,650	940
Cook	36	36	5,523	327	32,530	28,620	1,810	5,695	8,747	3,940	
Cottonwood	1,568	1,489	370,715	341,627	7,601,560	2,149,710	431,930	1,145,457	1,745,332	245,950	2,250
Crow Wing	1,241	1,206	170,509	86,179	1,125,780	378,180	97,190	350,112	367,463	23,690	450
Dakota	2,182	2,103	332,298	272,490	3,342,395	1,684,280	450,490	1,316,181	2,163,589	229,030	7,200
Dodge	1,651	1,613	258,979	219,508	6,661,170	1,421,610	332,610	1,234,222	1,619,532	183,570	1,100
Douglas	2,407	2,348	348,802	192,081	5,634,650	1,329,410	368,090	940,891	1,507,509	269,390	12,570
Faribault	2,232	2,159	442,042	394,000	16,484,500	2,624,610	666,850	1,964,978	2,606,911	322,450	5,780
Fillmore	3,477	3,392	521,261	389,386	14,240,595	2,801,725	653,260	2,662,528	3,062,713	299,160	13,030
Freeborn	2,691	2,583	436,748	342,876	11,766,250	2,778,900	596,430	2,270,676	2,699,917	386,630	790
Goodhue	3,210	3,138	470,062	374,593	12,285,550	3,088,240	631,220	2,044,607	3,027,194	609,150	5,460
Grant	1,245	1,182	284,039	121,610	4,401,060	720,380	282,380	687,111	1,303,708	184,140	1,300
Hennepin	3,684	3,525	297,052	197,570	13,988,070	3,742,080	528,020	1,701,810	3,012,397	378,750	8,430
Houston	2,130	2,064	331,986	169,810	6,619,250	1,575,790	360,500	1,888,570	1,630,451	135,820	1,970
Hubbard	1,431	1,394	99,143	29,509	708,720	119,150	55,010	139,524	188,155	20,590	160
Isanti	2,044	1,978	221,576	85,747	2,552,340	978,690	212,790	587,709	820,890	96,510	4,960
Itasca	217	211	27,641	4,274	188,880	77,580	16,060	65,727	70,222	8,560	230
Jackson	1,949	1,860	404,014	354,253	10,401,960	1,615,670	544,100	1,581,924	1,810,921	186,930	1,590
Kanabec	749	724	127,475	13,832	1,019,480	248,310	47,230	201,747	182,471	18,110	
Kandiyohi	2,365	2,220	443,146	340,722	8,094,340	1,807,980	461,290	1,351,416	1,984,622	385,430	5,410
Kittson	1,286	1,129	339,677	205,544	4,638,830	804,110	336,980	848,558	1,415,082	361,600	4,320
Lac qui Parle	1,951	1,819	464,705	391,711	9,399,940	1,499,970	556,550	1,874,090	2,434,690	372,400	3,030
Lake	19	19	2,435	243	16,300	9,200	380	4,885	6,539	700	
Le Sueur	2,472	2,380	288,609	148,399	8,041,680	1,579,270	394,600	1,111,167	1,707,797	135,360	1,100
Lincoln	1,840	1,785	300,274	237,636	5,658,450	861,580	339,190	818,125	1,344,893	134,060	4,710
Lyons	1,632	1,551	398,432	334,280	8,649,090	1,816,860	438,300	1,316,225	2,124,409	294,480	1,720
McLeod	2,585	2,264	302,091	223,943	8,740,020	1,942,190	428,420	1,331,321	1,949,713	161,980	480
Marshall	2,464	2,405	543,190	340,882	5,717,310	944,720	490,150	1,339,277	1,887,997	376,640	3,420
Martin	2,138	2,069	420,792	333,459	12,100,790	1,853,840	507,330	1,698,799	1,968,386	194,250	8,230
Meeker	2,511	2,422	845,982	258,314	3,215,350	1,788,860	463,360	1,373,140	1,956,417	222,500	1,850
Millers	1,022	978	95,660	81,406	1,379,540	298,550	82,550	321,163	304,518	16,660	110
Morrison	2,400	2,340	331,816	148,855	3,965,240	967,380	337,570	909,769	1,102,016	78,430	6,120
Mower	2,447	2,370	432,906	394,801	14,935,660	2,635,510	615,540	2,095,438	2,707,760	327,820	830
Murray	1,713	1,650	385,061	333,656	9,438,590	1,131,630	486,820	1,309,205	1,978,560	126,050	630
Nicollet	1,454	1,421	272,290	209,259	7,006,810	1,623,360	388,040	1,138,162	1,643,601	830,030	2,400
Nobles	1,751	1,666	420,213	298,238	11,298,880	1,363,730	490,220	1,439,298	2,206,819	261,050	720
Norman	1,938	1,796	428,985	316,597	6,882,260	1,120,760	456,750	1,155,870	1,402,486	295,260	3,110
Olmitz	2,539	2,455	405,889	327,419	13,592,810	2,684,110	555,160	2,005,259	2,559,762	240,630	4,360
Ottertail	6,227	6,016	944,732	505,858	12,478,640	3,042,960	957,600	2,416,332	3,641,557	541,760	5,940
Pine	1,415	1,393	148,459	80,637	1,440,070	387,250	92,620	853,484	818,576	13,860	
Pipestone	997	965	241,623	208,280	5,611,290	672,480	250,330	746,568	1,258,276	119,800	1,720
Polk	4,310	4,205	978,281	651,765	13,802,800	2,252,100	1,044,520	2,481,721	3,662,269	841,780	10,400
Pope	1,872	1,761	378,812	286,540	5,082,360	1,180,240	352,310	1,010,422	1,567,910	328,480	8,830
Ramsey	928	897	60,783	38,967	3,339,910	1,056,230	145,900	429,893	1,095,893	122,790	9,100
Red Lake	1,885	1,845	258,367	146,274	2,119,770	485,060	214,820	637,504	717,978	86,450	1,470
Redwood	2,348	2,202	508,599	417,937	12,467,430	1,702,830	598,600	1,725,879	2,356,769	427,160	2,180
Renville	3,018	2,985	634,659	500,199	13,563,070	2,358,530	709,490	1,908,030	3,235,004	436,920	8,330
Rice	2,672	2,569	305,513	227,779	9,976,890	2,307,820	475,050	1,443,068	2,062,018	153,710	9,670
Rock	1,169	1,122	283,897	267,427	8,163,410	978,990	360,870	1,203,644	1,768,121	192,330	
Roseau	1,444	1,434	280,681	74,336	1,422,130	281,890	102,550	413,978	268,188	27,600	220
St. Louis	696	682	69,950	11,406	650,500	259,780	45,710	190,456	289,998	34,830	1,180
Scott	1,649	1,605	214,254	128,320	5,999,540	1,455,120	275,420	1,014,640	1,390,878	104,140	7,850
Sherburne	1,054	1,016	179,105	98,589	2,063,230	572,070	147,720	637,126	651,902	49,110	50
Sibley	2,177	2,118	357,846	277,643	9,362,230	2,020,800	453,590	1,312,193	1,959,182	207,680	3,180
Stearns	4,449	4,388	731,323	420,428	13,022,280	2,619,020	744,390	2,248,124	3,121,365	285,040	8,990
Steele	1,801	1,747	226,871	166,371	9,507,150	1,717,090	368,520	1,373,793	1,772,871	200,130	4,260
Stevens	1,156	1,076	312,081	350,151	4,734,980	899,790	326,930	761,561	1,565,509	240,680	3,450
Swift	1,795	1,684	414,950	343,863	6,854,510	1,156,730	401,830	1,048,666	1,698,838	304,070	1,780
Todd	3,084	2,931	365,988	161,002	6,027,330	1,038,040	356,020	948,679	1,162,180	120,790	2,460
Traverse	1,086	1,008	321,708	266,563	5,314,080	732,540	282,000	636,229	1,476,927	394,680	4,170
Wabasha	1,917	1,803	324,531	227,689	8,600,910	1,797,960	898,380	1,282,940	1,940,613	247,090	2,590
Wadena	990	966	141,376	61,284	1,314,530	284,990	112,760	322,641	409,610	27,090	100

TABLE 3.—NUMBER AND ACREAGE OF FARMS, AND VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, JUNE 1, 1900, WITH VALUE OF PRODUCTS OF 1899 NOT FED TO LIVE STOCK, AND EXPENDITURES IN 1899 FOR LABOR AND FERTILIZERS, BY COUNTIES—Continued.

COUNTIES.	NUMBER OF FARMS.		ACRES IN FARMS.		VALUES OF FARM PROPERTY.				Value of products not fed to live stock.	EXPENDITURES.	
	Total.	With build-ings.	Total.	Improved.	Land and improve-ments (ex-cept build-ings).	Buildings.	Imple-ments and machinery.	Live stock.		Labor.	Fertili-zers.
Waseca.....	1,672	1,631	262,467	225,184	\$9,164,840	\$1,727,340	\$369,390	\$1,241,184	\$1,618,400	\$165,140	\$3,530
Washington.....	1,843	1,796	214,858	145,851	6,130,030	1,699,530	310,910	921,680	1,452,895	187,420	2,810
Watsonwan.....	1,291	1,212	255,815	219,558	7,006,990	1,225,400	302,890	1,031,282	1,261,126	160,000	2,260
Wilkin.....	1,117	1,062	318,098	267,764	5,460,700	745,030	323,400	722,235	1,488,039	198,970	2,680
Winona.....	2,359	2,286	371,650	280,698	10,182,780	2,812,390	461,120	1,415,519	1,918,098	243,280	4,150
Wright.....	3,992	3,891	383,966	215,436	9,493,540	2,414,470	553,970	1,646,809	2,267,059	139,240	3,610
Yellow Medicine.....	1,872	1,817	423,714	353,000	9,030,800	1,336,790	456,420	1,245,516	2,353,540	293,880	1,070
Red Lake.....	144	141	4,752	2,276	28,190	23,740	6,180	14,600	22,942	2,280	-----
White Earth ¹	198	183	82,206	22,545	787,090	90,080	48,890	79,601	94,448	5,060	430
Winnibigoshish ¹	6	3	534	87	2,770	550	260	515	623	20	-----

¹ Indian reservation.

Increases since 1890 in the number of farms are shown for all counties except Nicollet, which reports only two farms less, and Polk, from which, in 1897, a tract was taken to form part of Red Lake county. Over one-sixth of the counties report more than twice as many farms in 1900 as in 1890, and in many of the remaining counties the increases were nearly as great.

All counties show increases in the total farm acreage, and all except Lake and Scott in the acreage of improved land. The improved area has doubled in more than one-third of the counties.

The average size of farms for the state is 169.7 acres, and the county averages show few marked variations from that figure. The average is smallest for the counties in which dairying is the chief industry, and largest for the counties along the northwestern border, which are devoted to the growing of cereals and to stock raising.

The average value of farms for the state is \$4,329; the total values having more than doubled in one-half of the counties. All except the adjoining counties of Anoka, Dakota, and Ramsey, in the southeastern part, and St. Louis, in the northern part of the state, show substantial gains over the values reported in 1890.

The value of implements and machinery has more than doubled in nearly one-half of the counties in the last ten years, Lake county alone showing a decrease.

The increases in the value of live stock have been general throughout the state, but are relatively smaller in the southeastern section than elsewhere. Nicollet and Ramsey are the only counties in which the value of live stock in 1900 is less than in 1890.

The average expenditure per farm for labor, including the value of board furnished, was \$107.71, the smallest amounts being paid in the northeastern counties, which comprise the mineral region.

Expenditures for fertilizers were considerably greater in 1899 than in 1889. Lesueur, McLeod, Nobles, Pine, Ren-

ville, Rock, and Wadena counties show decreases, but in most of the remaining counties the amounts thus expended have doubled.

FARM TENURE.

Table 4 gives a comparative exhibit of farm tenure for 1880, 1890, and 1900. The farms operated by tenants are divided into two groups, designated as farms operated by "cash tenants" and by "share tenants." These groups comprise, respectively: (1) Farms operated by individuals who pay a cash rental or a stated amount of labor or farm produce; (2) farms operated by individuals who pay as rental a stated share of the products. In Table 5 the tenure of farms for 1900 is given by race of farmer. The farms under the classification "owners" in Table 4 are subdivided in Table 5 into groups designated as farms operated by "owners," "part owners," "owners and tenants," and "managers." These terms denote, respectively: (1) Farms operated by individuals who own all the land they cultivate; (2) farms operated by individuals who own a part of the land and rent the remainder from others; (3) farms operated under the joint direction and by the united labor of two or more individuals, one owning the farm or a part of it, and the other, or others, owning no part, but receiving for supervision or labor a share of the products; and (4) farms operated by individuals who receive for their supervision and other services a fixed salary from the owners.

TABLE 4.—NUMBER AND PER CENT OF FARMS OF SPECIFIED TENURES: 1880 TO 1900.

YEAR.	Total number of farms.	NUMBER OF FARMS OPERATED BY—			PER CENT OF FARMS OPERATED BY—		
		Owners. ¹	Cash tenants.	Share tenants.	Owners. ¹	Cash tenants.	Share tenants.
1900.....	154,659	127,904	5,129	21,626	82.7	3.3	14.0
1890.....	116,851	101,747	3,421	11,683	87.1	2.9	10.0
1880.....	92,836	83,933	1,251	7,202	90.8	1.4	7.8

¹ Including "part owners," "owners and tenants," and "managers."

TABLE 5.—NUMBER AND PER CENT OF FARMS OF SPECIFIED TENURES, JUNE 1, 1900, CLASSIFIED BY RACE OF FARMER.

PART 1.—NUMBER OF FARMS OF SPECIFIED TENURES.

RACE.	Total number of farms.	Owners.	Part owners.	Owners and tenants.	Managers.	Cash tenants.	Share tenants.
The State.....	154,659	111,248	14,805	756	1,095	5,129	21,626
White.....	154,287	110,806	14,796	756	1,090	5,124	21,615
Colored.....	372	442	9	—	5	5	11
Indian.....	841	326	7	—	3	—	5
Negro.....	81	16	2	—	2	5	6

PART 2.—PER CENT OF FARMS OF SPECIFIED TENURES.

	The State.....	White.....	Colored.....
100.0	71.9	9.6	0.5
0.7	3.3	14.0	8.0
100.0	71.9	9.6	0.5
92.0	2.4	0.7	1.3

Between 1890 and 1900 the number of farms operated by owners increased 25.7 per cent; cash tenant farms increased 49.9 per cent; and share tenant farms, 85.1 per cent. In 1890, 77.4 per cent of all tenants were share tenants, and in 1900, 80.8 per cent. The greatest relative numbers of share tenants are in the southwestern section of the state. The greatest relative numbers of owners are in the northwestern and north central sections of the state where the land has been entered by homesteaders, over 90 per cent of all farmers in those regions being owners.

No previous census has reported the number of farms operated by "part owners," "owners and tenants," or "managers," but it is believed that the number conducted by the last-named class is constantly increasing.

FARMS CLASSIFIED BY RACE OF FARMER AND BY TENURE.

Tables 6 and 7 present the principal statistics for farms classified by race of farmer and by tenure.

TABLE 6.—NUMBER AND ACREAGE OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY RACE OF FARMER AND BY TENURE, WITH PERCENTAGES.

RACE OF FARMER, AND TENURE.	Number of farms.	NUMBER OF ACRES IN FARMS.			VALUE OF FARM PROPERTY.	
		Average.	Total.	Per cent.	Total.	Per cent.
The State.....	154,659	169.7	26,248,498	100.0	\$788,684,642	100.0
White farmers.....	154,287	169.7	26,182,627	99.8	787,795,188	99.9
Negro farmers.....	81	144.9	4,498	(¹)	99,755	(¹)
Indian farmers.....	341	180.0	61,378	0.2	789,699	0.1
Owners.....	111,248	153.7	17,093,666	65.1	508,541,250	64.5
Part owners.....	14,805	246.7	3,651,871	13.9	103,352,408	13.1
Owners and tenants.....	756	196.3	148,429	0.6	4,515,212	0.6
Managers.....	1,095	444.0	480,147	1.8	13,693,808	1.7
Cash tenants.....	5,129	131.1	672,178	2.6	27,057,625	3.4
Share tenants.....	21,626	194.0	4,196,212	16.0	131,524,844	16.7

¹ Less than one-tenth of 1 per cent.

TABLE 7.—AVERAGE VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND AVERAGE GROSS INCOME PER FARM, WITH PER CENT OF GROSS INCOME ON TOTAL INVESTMENT IN FARM PROPERTY, CLASSIFIED BY RACE OF FARMER AND BY TENURE.

RACE OF FARMER, AND TENURE.	AVERAGE VALUES PER FARM OF—					Per cent of gross income on total investment in farm property.
	Farm property, June 1, 1900.				Gross income (products of 1899 not fed to live stock).	
	Land and improvements (except buildings).	Buildings.	Implementations and machinery.	Live stock.		
The State.....	\$3,616	\$713	\$195	\$576	\$827	16.2
White farmers.....	3,621	714	195	576	829	16.2
Negro farmers.....	2,312	581	90	285	496	15.4
Indian farmers.....	1,733	222	119	242	281	10.0
Owners.....	3,153	693	182	543	751	16.4
Part owners.....	5,139	827	267	748	1,170	16.8
Owners and tenants.....	4,151	917	222	683	962	16.1
Managers.....	8,907	1,781	416	1,402	1,852	14.8
Cash tenants.....	3,896	679	162	538	788	14.9
Share tenants.....	4,604	685	205	588	939	15.4

Of the 365 farms, each containing 1,000 acres or over, 156 were operated by "owners;" 75, by "part owners;" 73, by "managers;" 48, by "share tenants;" 11, by "cash tenants;" and 2, by "owners and tenants." The farms operated by managers are larger and have a higher gross income per farm than those of any other class of farms grouped by tenure. The ratio which the gross income from farms operated by managers bears to the total value of their farm property is, however, smaller than for the other groups, because of the high average valuation of land and buildings, and the additional fact that some such farms are adjuncts to public institutions and, as such, are not operated primarily for profit.

FARMS CLASSIFIED BY AREA.

Tables 8 and 9 present the principal statistics for farms classified by area.

TABLE 8.—NUMBER AND ACREAGE OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY AREA, WITH PERCENTAGES.

AREA.	Number of farms.	NUMBER OF ACRES IN FARMS.			VALUE OF FARM PROPERTY.	
		Average.	Total.	Per cent.	Total.	Per cent.
The State.....	154,659	169.7	26,248,498	100.0	\$788,684,642	100.0
Under 3 acres.....	555	2.3	1,284	(¹)	827,521	0.1
3 to 9 acres.....	1,994	6.3	12,594	0.1	2,860,369	0.4
10 to 19 acres.....	2,254	13.1	29,453	0.1	3,657,790	0.5
20 to 49 acres.....	13,278	37.2	494,528	1.9	20,861,702	2.6
50 to 99 acres.....	30,990	74.8	2,316,708	8.8	88,759,534	10.6
100 to 174 acres.....	56,785	149.8	8,508,727	32.4	247,691,171	31.4
175 to 259 acres.....	24,983	215.4	5,371,078	20.5	168,254,982	21.8
260 to 499 acres.....	20,540	341.0	7,004,447	26.7	198,805,952	25.1
500 to 999 acres.....	2,965	681.4	1,871,877	7.1	48,600,032	6.2
1,000 acres and over.....	865	1,747.1	637,702	2.4	13,865,589	1.8

¹ Less than one-tenth of 1 per cent.

TABLE 9.—AVERAGE VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND AVERAGE GROSS INCOME PER FARM, WITH PER CENT OF GROSS INCOME ON TOTAL INVESTMENT IN FARM PROPERTY, CLASSIFIED BY AREA.

AREA.	AVERAGE VALUES PER FARM OF—					Per cent of gross income on total investment in farm property.
	Farm property, June 1, 1900.				Gross income (products of 1899 not fed to live stock).	
	Land and improvements (except buildings).	Buildings.	Implementments and machinery.	Live stock.		
The State.....	\$3,616	\$713	\$195	\$576	\$827	16.2
Under 3 acres.....	444	712	48	287	572	38.3
3 to 9 acres.....	618	617	50	149	395	27.5
10 to 19 acres.....	859	520	60	184	300	18.5
20 to 49 acres.....	948	343	67	213	276	17.6
50 to 99 acres.....	1,801	456	117	329	441	16.3
100 to 174 acres.....	3,038	631	178	515	704	16.1
175 to 259 acres.....	4,829	926	244	749	1,072	15.9
260 to 499 acres.....	7,148	1,143	335	1,024	1,546	16.0
500 to 999 acres.....	12,596	1,655	571	1,639	2,565	15.6
1,000 acres and over.....	29,051	3,676	1,492	3,769	7,579	20.0

The group of farms of 100 to 174 acres each contains more than one-third of all those in the state, showing the relative frequency of quarter-section holdings, and represents nearly one-third of the state totals for acreage and value of farms.

Aside from some exceptions in the groups of farms under 50 acres, the average values of the several classes of farm property and products increase with the size of the farms. The relatively high average value of live stock and the high average gross income shown for farms under 3 acres, are due to the fact that a very large per cent of the farms of this group are dairy or truck farms, which supply city markets. Florists' establishments comprise 8.3 per cent of the farms of this group. The incomes from these industries depend less upon the acreage used than upon the amount of capital invested in buildings, implements, and live stock, and the amounts expended for labor and fertilizers.

The average gross incomes per acre for the various groups classified by area are as follows: Farms under 3 acres, \$247.13; 3 to 9 acres, \$62.49; 10 to 19 acres, \$22.96; 20 to 49 acres, \$7.43; 50 to 99 acres, \$5.90; 100 to 174 acres, \$4.70; 175 to 259 acres, \$4.98; 260 to 499 acres, \$4.53; 500 to 999 acres, \$4.06; 1,000 acres and over, \$4.34.

FARMS CLASSIFIED BY PRINCIPAL SOURCE OF INCOME.

In Tables 10 and 11 the farms are classified by principal source of income. If the value of the hay and grain raised on any farm exceeds that of any other crop and constitutes at least 40 per cent of the total value of products not fed to live stock, the farm is classified as a "hay and grain" farm. If vegetables are the leading crop, constituting 40 per cent of the value of the products, it is a "vegetable" farm. The farms of the other groups are classified in accordance with the same general principle. "Miscellaneous" farms are those whose operators do not derive

40 per cent of their income from any one class of farm products. Farms with no income in 1899 are classified according to the agricultural operations upon other farms in the same locality.

TABLE 10.—NUMBER AND ACREAGE OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY PRINCIPAL SOURCE OF INCOME, WITH PERCENTAGES.

PRINCIPAL SOURCE OF INCOME.	Number of farms.	NUMBER OF ACRES IN FARMS.			VALUE OF FARM PROPERTY.	
		Average.	Total.	Per cent.	Total.	Per cent.
The State.....	154,659	169.7	26,248,498	100.0	\$788,684,642	100.0
Hay and grain.....	103,792	193.3	20,032,480	76.4	591,871,332	75.1
Vegetables.....	4,043	85.6	345,913	1.3	10,566,050	1.3
Fruit.....	381	33.2	12,667	0.1	962,683	0.1
Live stock.....	19,433	145.4	2,831,881	10.8	99,694,105	12.6
Dairy produce.....	9,249	117.7	1,088,988	4.2	36,910,563	4.7
Tobacco.....	6	62.7	376	(¹)	45,585	(¹)
Sugar.....	44	51.0	3,562	(¹)	213,647	(¹)
Flowers and plants.....	69	5.3	353	(¹)	598,759	0.1
Nursery products.....	43	101.6	4,370	(¹)	391,430	0.1
Miscellaneous.....	17,540	108.1	1,897,898	7.2	47,457,476	6.0

¹ Less than one-tenth of 1 per cent.

TABLE 11.—AVERAGE VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND AVERAGE GROSS INCOME PER FARM, WITH PER CENT OF GROSS INCOME ON TOTAL INVESTMENT IN FARM PROPERTY, CLASSIFIED BY PRINCIPAL SOURCE OF INCOME.

PRINCIPAL SOURCE OF INCOME.	AVERAGE VALUES PER FARM OF—					Per cent of gross income on total investment in farm property.
	Farm property, June 1, 1900.				Gross income (products of 1899 not fed to live stock).	
	Land and improvements (except buildings).	Buildings.	Implementments and machinery.	Live stock.		
The State.....	\$3,616	\$713	\$195	\$576	\$827	16.2
Hay and grain.....	4,170	719	218	595	924	16.2
Vegetables.....	1,703	546	103	256	491	13.8
Fruit.....	1,511	756	83	177	525	20.8
Live stock.....	3,286	901	188	740	808	15.8
Dairy produce.....	2,543	697	137	614	616	15.4
Tobacco.....	7,034	617	113	334	3,188	39.4
Sugar.....	3,303	753	327	473	892	18.4
Flowers and plants.....	3,939	4,431	229	79	4,025	43.4
Nursery products.....	6,481	1,814	374	434	9,129	100.3
Miscellaneous.....	1,752	492	114	346	442	16.4

Hay and grain farms constitute the leading group, with 67.1 per cent of the number of farms, 76.4 per cent of the acreage, and 75.1 per cent of the value of farm property. The group next in importance is that of live-stock farms, with 12.6 per cent of the number, and 10.8 per cent and 12.6 per cent of the acreage and value, respectively. For the several classes of farms the average values per acre of products not fed to live stock are as follows: Farms deriving their principal income from flowers and plants, \$765.14; nursery stock, \$89.83; tobacco, \$50.88; fruit, \$15.79; sugar, \$11.01; vegetables, \$5.74; live stock, \$5.56; dairy produce, \$5.24; hay and grain, \$4.78; and miscellaneous, \$4.09. In computing these averages the total area of the farms of each group is used, and not the acreage devoted to the crop from which the principal income is derived.

The wide variations in the averages and percentages of gross income are largely due to the fact that in computing gross income no deductions are made for expenses involved in operation. For florists' establishments and nurseries, the average expenditure for such items as labor and fertilizers represents a far greater percentage of the gross income than in the case of "live stock" or "miscellaneous" farms. If it were possible to present the average net income, the variations shown would be much smaller.

FARMS CLASSIFIED BY REPORTED VALUE OF PRODUCTS NOT FED TO LIVE STOCK.

Tables 12 and 13 present data relating to farms classified by the reported value of products not fed to live stock.

TABLE 12.—NUMBER AND ACREAGE OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY REPORTED VALUE OF PRODUCTS NOT FED TO LIVE STOCK, WITH PERCENTAGES.

VALUE OF PRODUCTS NOT FED TO LIVE STOCK.	Number of farms.	NUMBER OF ACRES IN FARMS.			VALUE OF FARM PROPERTY.	
		Average.	Total.	Per cent.	Total.	Per cent.
The State.....	145,659	169.7	26,243,498	100.0	\$788,081,042	100.0
\$0.....	1,042	146.5	152,622	0.6	1,959,390	0.3
\$1 to \$49.....	2,382	94.9	226,156	0.9	2,404,035	0.3
\$50 to \$99.....	4,677	85.4	399,804	1.5	5,387,635	0.7
\$100 to \$249.....	17,460	88.8	1,464,016	5.6	26,554,045	3.4
\$250 to \$499.....	30,163	104.7	3,158,026	12.0	78,407,925	9.9
\$500 to \$999.....	52,240	152.1	7,944,860	30.3	241,646,790	30.6
\$1,000 to \$2,499.....	42,590	250.9	10,684,683	40.7	362,205,475	45.9
\$2,500 and over.....	4,105	540.5	2,218,531	8.4	70,138,747	8.9

TABLE 13.—AVERAGE VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND AVERAGE GROSS INCOME PER FARM, WITH PER CENT OF GROSS INCOME ON TOTAL INVESTMENT IN FARM PROPERTY, CLASSIFIED BY REPORTED VALUE OF PRODUCTS NOT FED TO LIVE STOCK.

VALUE OF PRODUCTS NOT FED TO LIVE STOCK.	AVERAGE VALUES PER FARM OF—					Per cent of gross income on total invest- ment in farm property.
	Farm property, June 1, 1900.				Gross income (products of 1899 not fed to live stock).	
	Land and im- prove- ments (except build- ings).	Build- ings.	Imple- ments and ma- chinery.	Live stock.		
The State-----	\$3,616	\$713	\$195	\$576	\$827	16.2
\$0-----	1,426	163	45	236	-----	-----
\$1 to \$49-----	708	162	37	102	31	8.0
\$50 to \$99-----	766	199	41	142	67	5.9
\$100 to \$249-----	981	276	62	202	187	11.0
\$250 to \$499-----	1,752	415	115	317	367	14.1
\$500 to \$999-----	3,212	698	188	528	718	15.5
\$1,000 to \$2,499-----	6,186	1,095	800	923	1,424	16.7
\$2,500 and over-----	12,496	2,025	636	1,929	3,777	22.1

Many of the farms reporting no income for 1899 were homesteads taken up too late for cultivation that year. The fact that more than half of them were between 100 and 175 acres in size—the group containing the quarter-section tracts commonly taken up as new holdings—and that four-fifths of them were operated by owners, sustains this view. There were, also, some farms for which no

reports of the products of 1899 could be secured, as the persons in charge, June 1, 1900, did not operate the farms the preceding year and could give no definite information concerning the products. To this extent the reports fall short of giving a complete report of farm products in 1899.

LIVE STOCK.

At the request of the various live-stock associations of the country, a new classification of domestic animals was adopted for the Twelfth Census. The age grouping for neat cattle was determined in accordance with their present and prospective relations to the dairy industry and the supply of meat products. Horses and mules are classified by age, and neat cattle and sheep by age and sex. The new classification permits a very close comparison with the figures published in previous census reports.

Table 14 presents a summary of live-stock statistics.

TABLE 14.—NUMBER OF DOMESTIC ANIMALS, FOWLS, AND BEES ON FARMS, JUNE 1, 1900, WITH TOTAL AND AVERAGE VALUES, AND NUMBER OF DOMESTIC ANIMALS NOT ON FARMS.

LIVE STOCK.	Age in years.	ON FARMS.			NOT ON FARMS.
		Number.	Value.	Average value.	
Culves.....	Under 1.....	565,994	\$4,254,414	\$7.52	5,989
Steers.....	1 and under 2.....	161,645	2,553,015	15.79	1,458
Steers.....	2 and under 3.....	58,635	1,423,199	24.27	705
Steers.....	3 and over.....	9,143	318,247	34.26	234
Bulls.....	1 and over.....	42,549	1,302,197	28.25	207
Heifers.....	1 and under 2.....	211,162	3,299,865	15.63	2,178
Cows kept for milk.....	2 and over.....	753,632	21,513,337	28.55	36,051
Cows and heifers not kept for milk.....	2 and over.....	68,555	1,689,684	24.64	520
Colts.....	Under 1.....	45,501	970,772	21.33	1,116
Horses.....	1 and under 2.....	51,399	2,081,557	39.53	1,008
Horses.....	2 and over.....	599,566	39,252,715	65.47	88,636
Mule colts.....	Under 1.....	722	24,082	34.19	20
Mules.....	1 and under 2.....	813	39,020	48.00	51
Mules.....	2 and over.....	6,804	422,878	62.15	146
Asses and burros.....	All ages.....	161	11,475	71.27	54
Lambs.....	Under 1.....	230,550	410,557	1.78	1,196
Sheep (ewes).....	1 and over.....	329,954	1,205,275	3.65	2,788
Sheep (rams and wethers).....	1 and over.....	29,344	124,256	4.23	194
Swine.....	All ages.....	1,440,806	5,865,590	4.07	17,845
Goats.....	All ages.....	3,821	12,908	3.38	288
Fowls: ¹					
Chickens ²		7,730,940			
Turkeys.....		193,143			
Geese.....		90,976			
Ducks.....		127,636			
Bees (swarms of).....		45,877	167,280	3.65	
Unclassified.....			525		
Value of all live stock.....			89,063,097		

¹ The number reported is of fowls over 3 months old. The value is of all, old and young.

² Including Guinea fowls.

The total value of live stock on farms, June 1, 1900, was \$89,063,097. Of this amount 47.4 per cent represents the value of horses; 24.2 per cent, that of dairy cows; 16.5 per cent, that of other neat cattle; 6.6 per cent, that of swine; 2.6 per cent, that of poultry; 1.9 per cent, that of sheep; and 0.8 per cent, that of all other live stock.

No reports were received concerning the value of live stock not on farms, but it is probable that such animals have higher average values than those on farms. Allowing the same averages, however, the value of all live stock not on farms would be \$6,813,280. Exclusive of poultry and bees not on farms, the total value of live stock in the state may be estimated at \$95,876,400.

CHANGES IN LIVE STOCK ON FARMS.

The following table shows the changes since 1850 in the numbers of the most important domestic animals.

TABLE 15.—NUMBER OF SPECIFIED DOMESTIC ANIMALS ON FARMS: 1850 TO 1900.

YEAR.	Dairy cows.	Other neat cattle.	Horses.	Mules and asses.	Sheep. ¹	Swine.
1900.....	753,632	1,117,698	696,469	8,500	359,328	1,440,806
1890.....	598,908	779,671	461,509	9,511	309,049	858,715
1880.....	275,645	388,505	257,282	9,019	267,598	381,416
1870.....	121,467	188,912	93,011	2,350	182,343	148,473
1860.....	40,844	78,913	17,065	377	13,044	101,371
1850.....	607	1,395	860	14	80	734

¹ Lambs not included.

Half a century ago there were only 3,690 domestic animals in the state, while the census of 1900 shows a total of 4,376,428. Every decade since 1850 has shown an increase in all classes of live stock, with the exception of sheep, mules, and asses in the last decade. Between 1890 and 1900 the number of mules and asses decreased 10.6 per cent, and sheep of wool-bearing age 10.0 per cent.

Other domestic animals show the following increases since 1890: Dairy cows, 26.9 per cent; other neat cattle, 43.4 per cent; horses, 50.9 per cent; and swine, 68.8 per cent. The relative increase in the number of dairy cows would probably have been greater except for the stricter definition of the term "dairy cows" adopted by the Twelfth Census, by which many animals, so classed in former censuses, were excluded in 1900. The production of milk shows a gain for the decade of 66.2 per cent.

Although in 1900 the enumerators were instructed to report no fowls under 3 months old, while no such limitation was made in 1890, all classes of poultry show marked increases for the decade, as follows: Chickens, 73.8 per cent; ducks, 70.9 per cent; geese, 31.4 per cent; turkeys, 27.5 per cent.

ANIMAL PRODUCTS.

Table 16 is a summarized exhibit of the animal products of 1899.

TABLE 16.—QUANTITIES AND VALUES OF SPECIFIED ANIMAL PRODUCTS, AND VALUES OF POULTRY RAISED, ANIMALS SOLD, AND ANIMALS SLAUGHTERED ON FARMS, IN 1899.

PRODUCTS.	Unit of measure.	Quantity.	Value.
Wool.....	Pounds.....	2,612,737	\$460,305
Mohair and goat hair.....	Pounds.....	556	180
Milk.....	Gallons.....	1,304,017,106	16,623,460
Butter.....	Pounds.....	41,188,846	
Cheese.....	Pounds.....	290,623	
Eggs.....	Dozens.....	43,208,130	4,437,148
Poultry.....			2,927,717
Honey.....	Pounds.....	986,446	118,884
Wax.....	Pounds.....	20,626	
Animals sold.....			16,046,622
Animals slaughtered.....			4,908,061
Total.....			45,522,367

¹Comprises all milk produced, whether sold, consumed, or made into butter or cheese.

²Comprises the value of all milk sold and consumed, and of butter and cheese made.

The value of the animal products of the state for 1899 was \$45,522,367, or 28.2 per cent of the value of all farm

products. Of this amount, 46.0 per cent represents the value of animals sold and animals slaughtered on farms; 36.5 per cent, that of dairy produce; 16.2 per cent, that of poultry and eggs; 1.0 per cent, that of wool, mohair, and goat hair; and 0.3 per cent, that of honey and wax.

ANIMALS SOLD AND ANIMALS SLAUGHTERED.

The value of animals sold and animals slaughtered on farms in 1899 was \$20,954,673, or 12.9 per cent of the value of all farm products. Of all farms reporting live stock, 113,276, or 76.4 per cent, report animals slaughtered, the average value per farm being \$43.33. Of the number reporting live stock, 97,614, or 65.8 per cent, report sales of live animals, the average receipts per farm being \$164.39.

DAIRY PRODUCE.

In 1899 the proprietors of 9,249 farms, or 6.0 per cent of the total number in the state, derived their principal income from the sale of dairy produce. The production of milk in that year was 121,048,133 gallons greater than in 1889, a gain of 66.2 per cent. Notwithstanding the large increase in the number of creameries in the state in the last decade, the amount of butter made on farms increased 18.5 per cent. The increase in cheese factories, however, has been accompanied by a decrease in the production of cheese on farms, amounting to 57.0 per cent.

Of the \$16,623,460 given in Table 16 as the reported value of dairy produce, \$5,508,769, or 33.1 per cent, represents the value of such produce consumed on farms, and \$11,114,691, or 66.9 per cent, the amount derived from sales. The tabulated returns covering the dairying industry of the state indicate that as a result of a confusion between the terms "butter fat" and "butter" a considerable amount of the former was reported by the enumerators as butter sold instead of milk sold. Detailed consideration will be given to this fact in the final report.

POULTRY AND EGGS.

Of the \$7,364,865 given as the value of poultry products in 1899, 60.2 per cent represents the value of eggs produced, and 39.8 per cent, that of poultry raised. There were 43,208,130 dozens of eggs reported in 1900, more than twice as many as ten years before.

WOOL.

More wool was reported for 1899 than for any previous year, the increase between 1889 and 1899 having been from 312,861 fleeces weighing 1,945,249 pounds to 376,009 fleeces weighing 2,612,737 pounds, showing an increase in the average weight of fleeces from 6.2 pounds in 1889 to 6.9 pounds in 1899. Winona, Olmsted, Fillmore, and Murray counties lead in the production of wool.

HONEY AND WAX.

There were 986,446 pounds of honey and 20,626 pounds of wax reported in 1900, a decrease of 15.0 per cent in the amount of honey and an increase of 71.2 per cent in the amount of wax produced, as compared with 1890. Winona, Hennepin, and Morrison counties lead in the production of honey.

HORSES AND DAIRY COWS ON SPECIFIED CLASSES OF FARMS.

Table 17 presents, for the leading groups of farms, the number of farms reporting horses and dairy cows, the total number of these animals, and the average number per farm. In computing these averages, only farms which report the kind of stock under consideration are included.

TABLE 17.—HORSES AND DAIRY COWS ON SPECIFIED CLASSES OF FARMS, JUNE 1, 1900.

CLASSES.	HORSES.			DAIRY COWS.		
	Farms reporting.	Number.	Average per farm.	Farms reporting.	Number.	Average per farm.
Total	140,519	696,469	5.0	139,438	758,632	5.4
White farmers	140,281	695,466	5.0	139,310	758,250	5.4
Colored farmers	238	1,003	3.5	128	382	3.0
Owners ¹	115,122	559,065	4.9	115,268	622,441	5.4
Managers	10,001	10,001	10.8	910	7,465	8.2
Cash tenants	4,457	19,521	4.4	4,282	27,338	6.5
Share tenants	19,937	107,882	5.4	19,028	96,388	5.1
Under 20 acres	3,217	6,324	2.0	3,279	10,195	3.1
20 to 99 acres	36,488	102,660	2.8	36,081	128,751	3.5
100 to 174 acres	58,823	231,214	4.3	52,423	203,317	5.0
175 to 259 acres	24,142	141,730	5.9	23,782	161,683	6.8
260 acres and over	23,349	214,541	9.2	23,028	189,686	8.2
Hay and grain	95,648	524,751	5.5	93,548	493,517	5.3
Vegetable	3,298	9,041	2.7	2,954	8,311	2.8
Fruit	261	628	2.2	240	496	2.1
Live stock	18,166	85,420	4.7	18,802	117,067	6.3
Dairy	8,847	31,008	3.7	9,249	77,274	8.4
Miscellaneous ²	14,754	45,621	3.1	14,615	56,807	3.9

¹Including "part owners" and "owners and tenants."

²Including tobacco farms, sugar farms, florists' establishments, and nurseries.

CROPS.

The following table gives the statistics of the principal crops of 1899.

TABLE 18.—ACREAGES, QUANTITIES, AND VALUES OF THE PRINCIPAL FARM CROPS IN 1899.

CROPS.	Acres.	Unit of measure.	Quantity.	Value.
Corn	1,441,580	Bushels	47,256,920	\$11,837,105
Wheat	6,560,707	Bushels	95,278,660	50,601,948
Oats	2,201,325	Bushels	74,054,150	15,820,804
Barley	877,845	Bushels	24,314,240	7,220,739
Rye	118,869	Bushels	1,866,150	783,852
Buckwheat	6,700	Bushels	82,687	43,741
Flaxseed	566,801	Bushels	5,895,479	5,898,656
Kafir corn	43	Bushels	1,096	366
Clover seed		Bushels	8,034	34,536
Grass seed		Bushels	553,939	494,765
Hay and forage	3,157,690	Tons	4,411,667	14,585,281
Tobacco	117	Pounds	127,780	12,869
Hops		Pounds	51	9
Broom corn	149	Pounds	76,960	4,121
Dry beans	3,290	Bushels	36,317	49,685
Dry peas	679	Bushels	9,021	9,338
Potatoes	146,650	Bushels	14,043,327	3,408,997
Sweet potatoes	4	Bushels	136	149
Onions	923	Bushels	285,564	130,494
Miscellaneous vegetables	27,438			1,372,907
Maple sugar		Pounds	29,580	2,733
Maple sirup		Gallons	1,079	2,939
Sorghum cane	2,283	Tons	1,232	2,318
Sorghum sirup		Gallons	157,605	56,896
Sugar beets	2,114	Tons	15,959	59,826
Small fruits	3,092			389,569
Grapes	1,230	Centals	5,733	215,593
Orchard fruits	120,081	Bushels	143,655	3109,050
Nuts				597
Forest products				2,602,335
Flowers and foliage plants	143			288,055
Seeds	81			9,249
Nursery products	1,127			383,105
Miscellaneous	1			44,910
Total	15,189,962			115,694,937

¹Estimated from number of vines or trees.

²Including the value of raisins, wine, etc.

³Including the value of cider, vinegar, etc.

⁴The greater part of this value was derived from products for which no acreage was reported.

Of the total value of crops in 1899, wheat contributed 43.7 per cent; other cereals, including Kafir corn, 30.4 per cent; hay and forage, 12.6 per cent; vegetables, including potatoes, sweet potatoes, and onions, 4.3 per cent; forest products, 2.2 per cent; and all other products, 6.8 per cent.

Wheat occupied the largest area devoted to any one crop, having an acreage larger than that of all other cereals combined, and more than twice that of hay and forage, which ranks second.

The average values per acre of the various crops were as follows: Flowers and plants, \$2,014.87; onions, \$141.38; small fruits, \$109.82; miscellaneous vegetables, \$50.04; sugar beets, \$28.30; potatoes, \$23.24; cereals, \$7.66; and hay and forage, \$4.62. The crops yielding the greatest returns per acre were grown upon highly improved land. Their production required a relatively great amount of labor, and large expenditures for fertilizers.

CEREALS.

The following table is an exhibit of the changes in cereal production since 1849.

TABLE 19.—ACREAGE AND PRODUCTION OF CEREALS: 1849 TO 1899.

PART 1.—ACREAGE.

YEAR. ¹	Barley.	Buckwheat.	Corn.	Oats.	Rye.	Wheat.
1899	877,845	6,700	1,441,580	2,201,325	118,869	6,560,707
1889	858,510	22,000	901,690	1,579,258	62,869	3,372,627
1879	116,020	3,677	438,737	617,469	13,614	3,044,670

¹No statistics of acreage were secured prior to 1879.

PART 2.—BUSHEL PRODUCTION.

YEAR.	Barley.	Buckwheat.	Corn.	Oats.	Rye.	Wheat.
1899	24,314,240	82,687	47,256,920	74,054,150	1,866,150	95,278,660
1889	9,100,683	281,705	24,696,446	49,958,791	1,252,663	52,800,247
1879	2,972,965	41,756	14,831,741	28,882,158	215,245	34,601,080
1869	1,032,024	52,438	4,743,117	10,678,261	78,088	18,866,073
1859	109,668	28,052	2,941,932	2,176,002	121,411	2,186,993
1849	1,216	515	16,725	30,582	125	1,401

In 1879 the total area devoted to the cereals shown in the above table was 4,234,187 acres; in 1889, 6,297,044 acres; and in 1899, 11,207,026 acres. Increases in acreage in the decade from 1889 to 1899 were as follows: Barley, 144.9 per cent; wheat, 94.5 per cent; rye, 89.1 per cent; corn, 59.9 per cent; and oats, 39.4 per cent. For buckwheat, a decrease of 69.7 per cent is shown. The total number of bushels of all grains produced in 1849 was 50,564, and in 1899, 242,852,807.

Of the total acreage under cereals in 1899, 58.5 per cent was devoted to wheat; 19.6 per cent to oats; 12.9 per cent to corn; and 9.0 per cent to barley, rye, and buckwheat. While the cereals are quite generally distributed throughout the state, wheat is grown most extensively in the northwestern counties, and corn and oats in the southwestern counties.

FLAX.

Flax was grown in 1899 by 31,647 farmers, or 20.5 per cent of the total number in the state. The area devoted to this crop increased from 303,635 acres in 1889 to 566,801

acres in 1899, a gain of 86.7 per cent, and the yield increased from 2,721,987 to 5,895,479 bushels of seed. The average yield per acre was 9.0 bushels in 1889, and 10.4 bushels in 1899. In 1899 the average acreage of flax for each farm reporting this crop was 17.9 acres, and the average value of product, \$186.89.

Clay, Wilkin, Grant, Traverse, Stevens, and Murray counties, and other counties on or near the western and southern borders, report extensive areas in this crop. Very little flax is grown north and east of a line drawn from the extreme northwest to the extreme southeast of the state.

HAY AND FORAGE.

In 1900, 132,851 farmers, or 86.0 per cent of the total number, reported hay or forage crops. They obtained an average yield, exclusive of cornstalks, of 1.37 tons per acre. The total area devoted to hay and forage in 1899 was 3,157,690 acres, an increase of 12.9 per cent over that of ten years before. Of this area, 2,196,023 acres, or 69.6 per cent, produced 2,842,234 tons of wild, salt, and prairie grasses. In 1899 the acreages and yields of the various other kinds of hay and forage were as follows: Millet and Hungarian grasses, 58,339 acres and 93,954 tons; alfalfa or lucern, 658 acres and 1,781 tons; clover, 74,669 acres and 128,787 tons; other tame and cultivated grasses, 754,246 acres and 1,114,459 tons; grains cut green for hay, 26,304 acres and 45,633 tons; crops grown for forage, 46,851 acres and 112,500 tons; and corn stalks, 48,100 acres and 72,339 tons.

In Table 18 the production of cornstalks is included under "hay and forage," but the acreage is included under corn, as the forage secured was only a secondary product of the corn crop.

TOBACCO.

Tobacco was first reported in Minnesota in 1860, when 88,938 pounds were raised. The production fluctuated greatly during the succeeding decades, the quantity produced in 1899 being a little over three times as great as in 1859, but nearly six times as great as that reported in 1889. The enumeration of June 1, 1900, shows that tobacco was raised by 186 farmers, who obtained from 117 acres a yield of 127,730 pounds, valued at \$12,869. In Fillmore county 28 farmers obtained from 86 acres a yield of 105,420 pounds, or 82.5 per cent of all tobacco raised in the state. The average value was 10 cents per pound.

ORCHARD FRUITS.

The changes in orchard fruits since 1890 are shown in the following table.

TABLE 20.—ORCHARD TREES AND FRUITS: 1890 AND 1900.

FRUITS.	NUMBER OF TREES.		BUSHELS OF FRUIT.	
	1900.	1890.	1899.	1889.
Apples	875,905	165,294	120,143	80,131
Apricots	87	221	2	
Cherries	19,882	1,242	960	13
Peaches	1,626	384	190	5
Pears	3,602	882	226	96
Plums and prunes	191,313	47,458	21,820	5,358

The cultivation of orchard fruits, while general throughout the state, is most extensive in the south and southeast; nearly all counties in which orchard products were valued at more than \$5,000 in 1899 were located in those sections. In 1899 the total value of orchard products was \$109,050, of which amount 86.1 per cent was contributed by the six southeastern counties of Wabasha, Winona, Goodhue, Fillmore, Dakota, and Nicollet, ranking in the order named.

The total number of trees shows a marked gain in the last decade, the number of apple trees having increased more than fivefold and plum and prune trees more than fourfold.

In 1899, as in 1889, the apple was the leading fruit, both in the number of trees and in the quantity of product. Of the total number of trees reported in 1900, 79.9 per cent were apple trees; 17.4 per cent, plum and prune trees; 1.8 per cent, cherry trees; and 0.9 per cent, all other fruit trees. In addition to the number of trees shown in Table 20, unclassified orchard trees to the number of 4,029 were reported, with a yield of 314 bushels of fruit.

The value of orchard products, given in Table 18, includes the value of 194 barrels of cider, 106 barrels of vinegar, and 500 pounds of dried and evaporated fruits.

Seasonal variations so largely affect the quantity of fruit produced in any given year, that comparisons between the crops of 1889 and 1899 have little significance.

VEGETABLES.

The value of the vegetables grown in 1899, including potatoes, sweet potatoes, and onions, was \$4,912,547. Of this amount, the value of potatoes constitutes 69.4 per cent. Potatoes were grown in every county in the state, being reported by 116,595 farmers, or 75.4 per cent of the total number. Isanti and Chisago counties reported over one million bushels each. Aside from the land devoted to potatoes, sweet potatoes, and onions, 27,438 acres were used in the growing of miscellaneous vegetables. Of this latter area the products of 19,489 acres were not reported in detail. Of the remaining 7,949 acres, 2,633 were devoted to sweet corn, 1,759 to cabbage, 813 to muskmelons, 701 to tomatoes, 494 to cucumbers, 435 to watermelons, 316 to turnips, 190 to beets, 169 to squashes, 94 to pease, 88 to carrots, and 257 to other vegetables.

SMALL FRUITS.

The total area devoted to the cultivation of small fruits in 1899 was 3,092 acres, distributed among 13,379 farms. The value of the fruits grown was \$339,569, an average of \$25.38 per farm. Of the total area, 1,302 acres, or 42.1 per cent, were devoted to strawberries, and 1,115 acres, or 36.1 per cent to raspberries and Logan berries. The quantities of these fruits produced in 1899 were 2,506,020 and 1,252,930 quarts, respectively. The acreage and production of other berries were as follows: Currants, 259 acres and 311,950 quarts; blackberries and dewberries, 162 acres and 192,010 quarts; gooseberries, 112 acres and 128,250 quarts; and other berries, 142 acres and 151,480 quarts.

SUGAR BEETS.

Though begun only in the last decade, the growing of sugar beets is rapidly becoming an important branch of agriculture in Minnesota. In 1899, 624 farmers devoted to this crop an area of 2,114 acres, or an average of 3.4 acres per farm. They obtained and sold from this land 15,959 tons of beets, an average of 7.5 tons per acre, and received therefor \$59,826, an average of \$95.88 per farm, \$28.30 per acre, and \$3.75 per ton.

The production of beets was reported by 31 counties, Carver, Sibley, Scott, McLeod, Hennepin, and Goodhue, ranking in the order named, showing 76.8 per cent of the total acreage.

FLORICULTURE.

In 1899 the operators of 110 farms, including 69 commercial florists, raised flowers and foliage plants to the value of \$288,055. The florists derived \$270,058 from the sale of flowers and plants, and \$7,687 from other products. The capital invested in the 69 florists' establishments was \$598,759—\$271,750, in land; \$305,739, in buildings and other improvements; \$15,810, in implements; and \$5,460 in live stock. The expenditure for labor was \$76,075, and for fertilizers, \$1,625.

A total of 1,302,440 square feet of land under glass was reported by the operators of 471 farms, including that of the 69 florists, who reported 889,986 square feet of glass surface, covering a land area of about 667,490 square feet.

INDIAN RESERVATIONS.

The reservations of Minnesota reporting agriculture are Red Lake, White Earth, and Winnibigoshish. Red Lake and White Earth contain good agricultural and grazing land; many of the Indians on these reserves have made fair progress in farming, while some are successful stock raisers. Winnibigoshish has but little cultivable land, only a few small tracts in the timber areas being devoted to the growing of crops.

The reservation Indians of Minnesota, with the exception of a band of Sioux, are the Chippewa (Algonquian), of which there are a number of different bands. The majority have adopted the ways of civilization and are practically self-supporting, the aged and infirm alone receiving aid from the Government. Those bands which have no opportunity to cultivate the soil, subsist on fish, game, wild rice, and berries, of which they are able, also, to sell large quantities. Logging is carried on to a considerable extent in the timbered districts, and large quantities of maple sugar are also made.

RED LAKE RESERVATION.

Red Lake Reservation, comprising an area of 1,250 square miles, is situated in the northwestern part of the state, in Red Lake and Beltrami counties. The land is a rich prairie with occasional groves of timber, and is well adapted to agriculture; an abundant growth of blue joint

NURSERIES.

The 43 nurseries in the state reported net products valued at \$392,536, of which amount \$376,956 was derived from the sale of nursery stock, and \$15,580 from other products. The total area of land used was 4,370 acres, making the gross income per acre \$89.83. The capital invested was: \$278,670, in land; \$78,000, in buildings and improvements; \$16,700, in implements; and \$18,690, in live stock. The expenditures for labor and fertilizers were \$54,122 and \$1,305, respectively.

LABOR AND FERTILIZERS.

The total expenditure for labor on farms in 1899, including the value of board furnished, was \$16,657,820, an average of \$108 per farm. The average was highest per acre for the most intensively cultivated farms. The average per farm was \$1,259 for nurseries, \$1,108 for florists' establishments, \$147 for sugar farms, \$128 for hay and grain farms, \$87 for live-stock farms, \$75 for fruit farms, \$73 for tobacco farms, \$71 for dairy farms, and \$52 for vegetable farms. "Managers" expended, on an average, \$570; "share tenants," \$113; "owners," \$96; and "cash tenants," \$90. White farmers expended \$108 per farm, and colored farmers, \$18.

Fertilizers purchased in 1899 cost \$251,120, about four times the amount paid in 1889, and an average of \$1.63 per farm. The average expenditure was \$30 for nurseries, \$24 for florists' establishments, \$3 for vegetable farms, \$2 for fruit farms and for hay and grain farms, and \$1 each for dairy farms, sugar farms, and live-stock farms.

grass and a plentiful supply of water provide unexcelled opportunities for stock raising.

The Chippewa at Red Lake are the Red Lake and Pembina bands, the total population of the reserve being 1,450. They have made considerable progress in agriculture in the past few years and where formerly they raised only small quantities of corn and potatoes for local consumption, they now supply the demand for grain, hay, and vegetables, which has been created by the establishment of the lumber industry in the vicinity of the reservation. As a result of this stimulus, the acreage under cultivation has been greatly increased. A number of Indian farmers are engaged also in making maple sugar, some individual reports for the census year ranging as high as 800 pounds.

Most of the 138 Indian farmers reporting, cultivate from 3 to 10 acres of corn, oats, potatoes, beans, and miscellaneous garden vegetables, while a few cut large quantities of wild hay from much larger areas. The best farms lie along the Red Lake River and many more of the tribe could be induced to engage in farming there, if implements and lumber for building purposes were provided.

Stock raising could be made a much more profitable adjunct to their present agricultural operations if cattle were issued to them; a few now possess small numbers including dairy cows, but there is only one large-sized herd on

the reservation. Most farmers own a few work horses of Indian pony stock, and a number also raise swine and chickens.

WHITE EARTH RESERVATION.

White Earth Reservation, embracing an area of 1,099.25 square miles, is situated in the northwestern part of Minnesota, in Norman, Beltrami, and Becker counties. The western portion of the reserve is a large rolling prairie, with a deep, rich soil which is very productive; there is an abundance of wild meadow land, well watered by lakes and running streams. The eastern portion is principally timber land.

The Chippewa (Algonquian) on this reservation number 3,486 and comprise the Chippewa of the Mississippi, Gull Lake, Pembina, Otter Tail, and Pillager bands; they are a peaceable, industrious, and practically self-supporting people, agriculture being their principal occupation. The number and acreage of their farms have increased steadily each year. The best farms are owned by the mixed bloods, many of whom are practically civilized, while the full bloods cultivate only small areas, depending principally upon game, fish, wild rice, and berries, for their subsistence. The latter gather and sell large quantities of snake root, cranberries, etc., and in addition make quantities of maple sugar.

Of the 198 farms on the reserve, 131 were operated by Indians, those of the mixed bloods ranging from 75 to 355 acres in size and those of the full bloods from 5 to 30 acres.

The principal crops are wheat, oats, and flax, while potatoes and garden vegetables are grown in small quantities; in addition, considerable quantities of wild prairie grass are cut for hay. Hail storms destroyed a portion of the cereal crop in 1899.

Stock raising is not carried on extensively, although a few farmers have large herds and report considerable sales of live stock. The Indians generally possess a good grade of horses, many raise swine, and a few keep dairy cows and chickens.

WINNIBIGOSHISH RESERVATION.

The Winnibigoshish reserve is located in the north central part of the state in Itasca county, and contains an area of 198 square miles, of which only 22 square miles have been allotted, although the remainder will eventually be opened to settlement. The land is generally unsuited to agriculture, a large portion of it bordering on the lake of the same name, and being valuable principally for the timber upon it.

The Winnibigoshish Chippewa, like their neighbors, the Leech Lake and Cass Lake bands, do little farming, although they raise small quantities of potatoes and other vegetables in the cleared areas among the timber. Only 1 of the 6 farms reported on the reservation was operated by an Indian, but the members of the band practically support themselves by working in logging camps, gathering berries for market, and making maple sugar.